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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/814,451	WONG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Courtney Thomas	2882	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 10/17/05.
2. ☒ The allowed claim(s) is/are 1-3,5-21,31-33 and 35-75.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>10/17/05</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                               | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-3, 5-21, 31-33 and 35-75 are allowed.
2. The following is an examiner's statement of reasons for allowance:
3. **As per claims 1, 20 and 70 and dependent claims 2-3; 21 and 71-75, respectively,** the examiner found no reference in the prior art that disclosed or made obvious a radio surgery X-ray system comprising: a collision avoidance subsystem coupled to an arm assembly, the collision avoidance subsystem comprising means for preventing a head and arm assembly from effecting a collision with an object in one or more predetermined exclusion zones, as recite in independent claims 1, 20 and 70.
4. **As per claim 5 and dependent claims 6-12, 19 and 35-41,** the examiner found no reference in the prior art that disclosed or made obvious a system comprising: a collision avoidance subsystem coupled to an arm assembly to prevent an emission head and arm assembly from colliding with an object in one or more predetermined exclusion zones, the collision avoidance subsystem comprising one or more optical emitter-receiver pairs, as recited in independent claim 5.
5. **As per claim 13 and dependent claims 14, 15, 31 and 42-45,** the examiner found no reference in the prior art that disclosed or made obvious a system comprising: a collision avoidance subsystem coupled to an arm assembly to prevent an emission head and arm assembly from colliding with an object in one or more predetermined exclusion zones, wherein the collision avoidance subsystem comprises an array of acoustic transducers coupled to an X-ray source, wherein each of the transducers transmits a succession of acoustic pulses along a

Art Unit: 2882

transmission axis extending from the X-ray source, detects acoustic energy back-scattered along the transmission axis from an object disposed along the transmission axis and determines from the received back-scattered acoustic energy a distance between the X-ray source and the object and wherein the transmission axis of each acoustic transducer is mutually aligned whereby a cross section of adjacent pairs of pulses traverse to the transmission axis is contiguous at a predetermined distance from the X-ray source, as recited in independent claim 13.

6. **As per claim 16 and dependent claims 17, 18, 46 and 47**, the examiner found no reference in the prior art that disclosed or made obvious a system comprising: a collision avoidance subsystem coupled to an arm assembly to prevent an emission head and arm assembly from colliding with an object in one or more predetermined exclusion zones, wherein the collision avoidance subsystem comprises a sensor disposed on at least one of the arm assembly and an emission head; the sensor to generate an alarm signal upon impact of the sensor with an object during motion of the at least one of the arm assembly and/or emission head and wherein the collision avoidance subsystem interrupts motion of the at least one of the arm assembly and emission head in response to the alarm signal, as recited in independent claim 16.

7. **As per claim 32 and dependent claims 33, 48 and 49**, the examiner found no reference in the prior art that disclosed or made obvious a system comprising a collision avoidance subsystem coupled to an arm assembly, wherein the collision avoidance subsystem comprises a laser rangefinder for detecting a presence and location of an object in one or more exclusion zones, as recited in independent claim 32.

8. **As per claim 50 and dependent claims 51-69**, the examiner found no reference in the prior art that disclosed or made obvious a method comprising: defining one or more

Art Unit: 2882

predetermined exclusion zones of a radio surgery system; detecting a presence and location of an object in the one or more predetermined exclusion zones; and preventing an emission head from entering one or more predetermined exclusion zones, as recited in independent claim 50.


9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**EDWARD J. GLICK**  
**SUPERVISORY PATENT EXAMINER**

Courtney Thomas  
Examiner  
Art Unit 2882

*CT*